## REMARKS

Claims 1-28 were examined and reported in the Office Action. Claims 1-28 are rejected. Claims 1, 6, 13 and 21 are amended. Claims 1-28 remain.

Applicant requests reconsideration of the application in view of the following remarks.

### I.    IN THE DRAWINGS

Applicant has amended figures 3 and 4 to include registers 311, which were discussed in the specification, but not previously shown. Applicant has amended the specification to include a reference numeral ("311") for the registers, now illustrated in figures 3 and 4. Approval is respectfully requested.

### II.    35 U.S.C. §102(e)

It is asserted in the Office Action that claim 6 is rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,298,370 issued to Tang et al. ("Tang"). Applicant respectfully disagrees.

According to MPEP §2131, "'[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.' (Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)). 'The identical invention must be shown in as complete detail as is contained in the ... claim.' (Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)). The elements must be arranged as required by the claim, but this is not an ipsissimis verbis test, i.e., identity of terminology is not required. (In re Bond, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990))."

Applicant's amended claim 6 contains the limitations of "a processor; a memory coupled to the processor; a north bridge coupled to a bus and the processor; a south bridge coupled to the bus; and a universal serial bus (USB) bandwidth load balancing

circuit, wherein the USB bandwidth load balancing circuit dynamically distributes a plurality of USB ports based on a USB device bandwidth balancing process to maximize USB device bandwidth."

In other words, Applicant's claimed invention automatically and dynamically routes high bandwidth and low bandwidth USB devices in order to maximize the speed at which the respective device can operate (i.e., maximize the device's bandwidth).

Tang discloses a process allocation process for a computer system. It is asserted in the Office Action that smarthub 136 is a USB bandwidth load balancing circuit. Smarthub 136, however, requests functions provided by the VSP hardware by the host hub driver for the USB device making function calls through the VSP class driver or directly to the VSP hardware driver. Tang does not teach, disclose or suggest "the USB bandwidth load balancing circuit dynamically distributes a plurality of USB ports based on a USB device bandwidth balancing process to maximize USB device bandwidth."

Therefore, since Tang does not disclose, teach or suggest all of Applicant's amended claim 6 limitations, Applicant respectfully asserts that a *prima facie* rejection under 35 U.S.C. § 102(e) has not been adequately set forth relative to Tang. Thus, Applicant's claim 6 is not anticipated by Tang.

Accordingly, withdrawal of the 35 U.S.C. §102(e) rejection for claim 6 is respectfully requested.

### III.   35 U.S.C. §103(a)

A.   It is asserted in the Office Action that claims 7-12 are rejected under 35 U.S.C. §103(a) as being unpatentable over Tang in view of U.S. Patent No. 6,473,424 issued to DeJager ("DeJager"). Applicant respectfully disagrees.

According to MPEP §2142 "[t]o establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary

skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure." (In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)). Further, according to MPEP §2143.03, "[t]o establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. (In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." "All words in a claim must be considered in judging the patentability of that claim against the prior art." (In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970), emphasis added.)

Applicant's claims 7-12 directly or indirectly depend on claim 6. Applicant has discussed claim 6 relative to Tang above in section II.

DeJager discloses load balancing of data transmissions. DeJager discloses that data transmission streams are queued based on a port's queued stream load amount. That is, data streams are distributed to different ports in order to balance the total load scheduled for each port in a computer system. DeJager does not teach, disclose or suggest "the USB bandwidth load balancing circuit dynamically distributes a plurality of USB ports based on a USB device bandwidth balancing process to maximize USB device bandwidth." DeJager simply does not maximize USB device usage where multiple USB devices can operate at different bandwidths (e.g., USB 1.0, USB 2.0, etc.).

Since neither Tang, DeJager, nor the combination of the two disclose, teach or suggest all the limitations contained in Applicant's claim 6, as listed above, there would not be any motivation to arrive at Applicant's claimed invention. Thus, Applicant's claim 6 is not obvious over Tang in view of DeJager since a prima facie case of obviousness has not been met under MPEP §2142. Additionally, the claims that directly or indirectly depend from claim 6, namely claims 7-12, would also not be obvious over Tang in view of DeJager for the same reason.

Accordingly, withdrawal of the 35 U.S.C. §103(a) rejections for claims 7-12 are respectfully requested.

B.    It is asserted in the Office Action that claims 1-5 and 13-28 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,658,512 issued to Gokulrangen ("Gokulrangen") in view of U.S. Patent No. 6,363,077 issued to Wong et al. ("Wong"). Applicant respectfully disagrees.

Applicant's amended claim 1 contains the limitations of "a plurality of switches coupled to a plurality of registers, the plurality of registers to control the plurality of switches; wherein the plurality of switches are dynamically switched to route a plurality of universal serial bus (USB) ports based on a USB device bandwidth balancing process to maximize USB device bandwidth."

Applicant's amended claim 13 contains the limitations of "determining allocation of a plurality of USB root hubs; and switching a plurality of USB root hub USB device assignments dynamically to distribute a plurality of USB ports based on a USB device bandwidth balancing process to maximize USB device bandwidth."

Applicant's amended claim 21 contains the limitations of "determine allocation of a plurality of USB root hubs; and switching a plurality of USB root hub USB device assignments dynamically to distribute a plurality of USB ports based on a USB device bandwidth balancing process to maximize USB device bandwidth."

Gokulrangen discloses a bus admission method that determines a utilization value and then determines whether an additional device can be added to the bus in order to satisfy the transfer rate of the additional device. Gokulrangen, however, does not re-route USB hub signals to other USB ports in order to maximize USB device bandwidth. Moreover, Gokulrangen does not teach, disclose or suggest "the plurality of switches are dynamically switched to route a plurality of universal serial bus (USB) ports based on a USB device bandwidth balancing process to maximize USB device bandwidth" or "switching a plurality of USB root hub USB device assignments dynamically to distribute a plurality of USB ports based on a USB device bandwidth

balancing process to maximize USB device bandwidth."

Wong discloses a technique and device for load balancing in trunked links that includes a network switch. Wong, however, does not re-route USB hub signals to other USB ports in order to maximize USB device bandwidth. Moreover, Wong does not teach, disclose or suggest "the plurality of switches are dynamically switched to route a plurality of universal serial bus (USB) ports based on a USB device bandwidth balancing process to maximize USB device bandwidth" or "switching a plurality of USB root hub USB device assignments dynamically to distribute a plurality of USB ports based on a USB device bandwidth balancing process to maximize USB device bandwidth."

Since neither Gokulrangen, Wong, nor the combination of the two disclose, teach or suggest all the limitations contained in Applicant's claims 1, 13 and 21, as listed above, there would not be any motivation to arrive at Applicant's claimed invention. Thus, Applicant's claims 1, 13 and 21 are not obvious over Gokulrangen in view of Wong since a *prima facie* case of obviousness has not been met under MPEP §2142. Additionally, the claims that directly or indirectly depend from claims 1, 13 and 21, namely claims 2-5, 14-20, 22-28, respectively, would also not be obvious over Gokulrangen in view of Wong for the same reason.

Accordingly, withdrawal of the 35 U.S.C. §103(a) rejections for claims 1-5 and 13-28 are respectfully requested.

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## CONCLUSION

In view of the foregoing, it is believed that all claims now pending, namely 1-28, patentably define the subject invention over the prior art of record and are in condition for allowance and such action is earnestly solicited at the earliest possible date.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly extension of time fees.

Respectfully submitted,
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Dated: February 18, 2004          By: _____
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